WHAT IS CLAIMED IS:

1. A method of generating an initial puncturing matrix from which a first sub-code is produced in a communication system having a turbo encoder for generating information symbols, first parity symbols, and second parity symbols for the input of an information bit stream and a sub-code generator for generating sub-codes from the information symbols, the first parity symbols, and the second parity symbols using puncturing matrices, a number of the sub-codes being identical to a number of the puncturing matrices, comprising the steps of:

selecting as many information symbols as a number of columns in the initial puncturing matrix from the information symbols output from the turbo encoder, if a difference between a number Ns of selected symbols in the initial puncturing matrix and the number of the columns in the initial puncturing matrix is equal to or greater than a number of component encoders in the turbo encoder; and

selecting as many first and second parity symbols as the difference, a number of the selected first parity symbols being equal to or greater than a number of the selected second parity symbols.

2. The method of claim 1, further comprising the step of increasing the number of the columns in the puncturing matrix by an integer multiple if the difference is less than the number of the component encoders.

3. The method of claim 1, further comprising the step of selecting the Ns symbols from unselected first and second parity symbols in the initial puncturing matrix in generating a second puncturing matrix, wherein the number of the selected first parity symbols is equal to or greater than the number of the selected second parity symbols.

4. The method of claim 3, further comprising the step of selecting

remaining unselected first and second parity symbols in the other puncturing matrices except for a last puncturing matrix and repeating (Ns–Ns2) information symbols, Ns2 being a number of the other unselected parity symbols in the other puncturing matrices.

5. The method of claim 1, wherein the communication system uses the sub-code in a hybrid ARQ (Automatic Repeat Request) scheme.

6. The method of claim 1, wherein the number Ns of selected symbols is determined by C/Rmax, C being the number of the columns and Rmax being a code rate of the sub-code.

7. A method of generating a first sub-code to be transmitted by selecting a predetermined number of symbols from information symbols and first and second parity symbols within a predetermined puncturing range in a communication system having a turbo encoder for generating information symbols, first parity symbols, and second parity symbols for the input of an information bit stream, the predetermined number of symbols being Ns symbols, comprising the steps of:

selecting all the information symbols within the puncturing range, if a difference between Ns and a number of the information symbols is equal to or greater than a number of component encoders in the turbo encoder; and

selecting as many first and second parity symbols as the difference, a number of the selected first parity symbols being equal to or greater than a number of the selected second parity symbols.

8. The method of claim 7, further comprising the step of increasing the puncturing range by an integer multiple if the difference is less than the number of the component encoders.

9. The method of claim 7, further comprising the step of selecting the Ns symbols from unselected first and second parity symbols in the first sub-code in generating a second sub-code, wherein the number of the selected first parity symbols is equal to or greater than the number of the selected second parity symbols.

10. The method of claim 9, further comprising the step of selecting remaining unselected first and second parity symbols in the other sub-codes except for a last sub-code and repeating (Ns–Ns2) information symbols, Ns2 being a number of the other unselected parity symbols in generating the last sub-code.

11. The method of claim 7, wherein the communication system uses the sub-codes in a hybrid ARQ (Automatic Repeat Request) scheme.

12. The method of claim 7, wherein the number Ns of selected symbols is determined by C/Rmax, C being a number of columns in a puncturing matrix and Rmax being a code rate of the sub-code.

13. A method of generating puncturing matrices by which information symbols and first and second parity symbols are punctured in a communication system having a turbo encoder for generating information symbols, first parity symbols, and second parity symbols for the input of an information bit stream, and a sub-code generator for generating sub-codes from the information symbols, the first parity symbols, and the second parity symbols by puncturing, comprising the steps of:

determining a number S of the puncturing matrices by calculating a minimum integer equal to or greater than a ratio of Rmax to Rmin, Rmax being a given maximum code rate and Rmin being a given minimum code rate for the turbo encoder;

determining a number Ns of symbols to be selected from each puncturing matrix by C/Rmax, C being a number of columns of the puncturing matrix; and

generating a first puncturing matrix for which C information symbols are selected, as many first parity symbols as a minimum integer equal to or greater than a ratio of a(Ns–C) to (a+b) are selected, and as many second parity symbols as a maximum integer equal to or less than a ratio of b(Ns–C) to (a+b) are selected, if a difference between Ns and C, (Ns–C), is equal to or greater than a number of component encoders in the turbo encoder, a and b being symbol distribution ratios for the first and second parity symbols.

14. The method of claim 13, further comprising the step of increasing the number of the columns in the puncturing matrix by an integer multiple if the difference is less than the number of the component encoders.

15. The method of claim 13, further comprising the step of generating middle puncturing matrices except for the first and a last puncturing matrices by selecting as many first parity symbols as a minimum integer equal to or greater than a ratio of aNs to (a+b) and as many second parity symbols as a maximum integer equal to or less than a ratio of bNs to (a+b) without selecting any information symbols, so that the first and second parity symbols differ in the first and other puncturing matrices.

16. The method of claim 15, further comprising the step of generating the last puncturing matrix by selecting remaining unselected first and second parity symbols in the other puncturing matrices except for the last puncturing matrix and repeating (Ns–Ns2) information symbols, Ns2 being a number of the other unselected parity symbols in the other puncturing matrices.

17. The method of claim 13, wherein the communication system

uses the sub-codes in a hybrid ARQ (Automatic Repeat Request) scheme.

18. An apparatus for generating a sub-code in a communication system, comprising:

a turbo encoder for encoding an input information bit stream with a given code rate and generating information symbols, first parity symbols, and second parity symbols; and

a sub-code generator for generating a first sub-code to be transmitted by selecting all information symbols within a predetermined puncturing range and selecting as many first and second parity symbols as a difference between a predetermined number Ns of symbols to be selected and a number of the information symbols within the predetermined puncturing range, a number of the selected first parity symbols being equal to or greater than a number of the selected second parity symbols, if the difference is equal to or greater than a number of component encoders in the turbo encoder.

19. The apparatus of claim 18, wherein the sub-code generator generates a second sub-code by selecting Ns symbols from the first and second parity symbols without selecting information symbols, the number of the selected first parity symbols being equal to or greater than the number of the selected second parity symbols.

20. The apparatus of claim 19, wherein the sub-code generator generates a last sub-code by selecting remaining unselected first and second parity symbols in the other sub-codes except for the last sub-code and repeating (Ns–Ns2) information symbols, Ns2 being a number of the other unselected parity symbols in the other sub-codes.

21. The apparatus of claim 18, wherein the sub-code generator generates the sub-codes by increasing the puncturing range by an integer multiple

if the difference is less than the number of the component encoders.